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| TURNER, KATHERINE ANN | |

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/586,334 | SUZUKI ET AL. | |
| | Examiner | Art Unit | |
| | Katherine Turner | 1795 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *06 July 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-13* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6 and 9-13* is/are rejected.

7)☒ Claim(s) *7 and 8* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *7/6/2009* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

### *Response to Amendment*

1. The amendment filed July 6, 2009 has been entered. Claims 1-13 are pending. Claims 1, 6, 10, and 13 amended. Claims 14-25 are cancelled.

2. The text of those sections of Title 35, U.S.C. code not included in this action can be found in the prior Office Action issued on March 3, 2009.

### *Drawings*

3. The objections to the drawings are withdrawn in light of amendment.

### *Claim Objections*

4. Claim 3 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Dependent claim 3 recites the limitation of a the external heating means covering over a gap between the pair of separators, yet independent claim 1 recites the a heating step of heating the external force application means by external heating means which is described in the specification as the heaters (21 and 22) being in contact with the wedge-like insertion members (51 and 52), yet these heaters (21 and 22) cannot cover the gap between the separators because the wedge-like insertion members (51 and 52) blocking the heaters

(21 and 22) (figures 7-9; page 23, lines 4-26; page 24; page 25, lines 1-4), thus claim 3 fails to further limit claim 1.

Appropriate corrections are required.

***Claims Interpretation***

5. The means plus function limitations in claims 1-10 and 12-13 do not invoke 35 USC 112, sixth paragraph. Claims 1 and 13 recite, "external heating means to apply heat." Claims 1-6, 8, 10 and 12-13 recite, "external heating means." Claims 6-9 recite, "external force application means."

A claim limitation will be presumed to invoke 35 U.S.C. 112, sixth paragraph, if it meets the following 3-prong analysis:

(A) the claim limitations must use the phrase "means for " or "step for;"

(B) the "means for " or "step for " must be modified by functional language; and

(C) the phrase "means for " or "step for" must not be modified by sufficient structure, material, or acts for achieving the specified function.

Claims 1-10 and 12-13 do not use the phrase "means for" or "step for;" and claim 7 is modified by "a wedge-like member" which is sufficient structure for achieving the specified function.

See MPEP 2181.

***Claim Rejections - 35 USC § 102***

6. The claim rejections under 35 U.S.C. 102(b) as anticipated by Takase et al. (US 2007/0134536) on claims 1-2, 5-6, and 11are withdrawn, because Takase et al. is no longer prior art in light of the perfection of foreign priority for this application to Japanese Application No. 2004-029771.

***Claim Rejections - 35 USC § 103***

7. The claim rejections under 35 U.S.C. 103(a) as being unpatentable over Maston et al. (US 2003/0186107) in view of Schmid et al. (US 6,080,503) and Face, Jr. et al. (US 6,030,480) on claims 1-5 and 11-13 are withdrawn, because independent claims 1 and 13 have been amended.

8. The claim rejections under 35 U.S.C. 103(a) as being unpatentable over Maston et al. (US 2003/0186107) in view of Schmid et al. (US 6,080,503), Face, Jr. et al. (US 6,030,480), and Tajima (US 2003/0121601) on claims 6-10 are withdrawn, because independent claim 1 and claims 6 and 10 have been amended.

9. Claims 1-6 and 9-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maston et al. (US 2003/0186107) in view of Schmid et al. (US 6,080,503) and Tajima (US 2003/0121601).

Regarding claim 1, Maston et al. discloses a fuel cell disassembly method of disassembling fuel cells (24, 44) in a fuel cell stack, where each cell of the fuel cell

component are bonded together using an epoxy adhesive, the fuel cell disassembly method comprising: a separation facilitation step of heating the adhesive layer at 90 to 130 ºC, so as to melt the adhesive layer and thereby facilitate separation of the fuel cell components (figures 1-8; paragraphs 70, 90, 91 and 99), but is silent as to the pair of separators being arranged across an electrode assembly being bonded to each other via an adhesive layer, to the rise in temperature coming from an external heating means, and to the external force application means.

Schmid et al. teaches a PEM fuel cell stack where a pair of separator plates (11 and 12) are arranged across a MEA (5) being bonded to each other via an adhesive, around the perimeter of the separator plates circumscribing the electrochemically active area (40) of the MEA (5), the adhesive (50) forming a seal around each manifold opening for the fluid inlet and outlets, the adhesive (50) forming a sealing bond between the adjacent separator plates (11 and 12) at the interface between the individual cells, and the desire for easier stack disassembly to remove and repair individual cells, because this approach provides a simplified PEM stack design and reduced part count, and associated manufacturing and cost benefits, also the sealing is generally more reliable with this approach (figures, 2, 3a-3d, 4a-4c, and 5b; column 3, lines 1-24 and 53-61; column 5, lines 1-64; column 6, lines 22-58). It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the PEM fuel cell stack where a pair of separator plates (11 and 12) are arranged across a MEA (5) being bonded to each other via an adhesive, around the perimeter of the separator plates circumscribing the electrochemically active area (40) of the MEA (5), the adhesive (50)

forming a seal around each manifold opening for the fluid inlet and outlets, the adhesive (50) forming a sealing bond between the adjacent separator plates (11 and 12) at the interface between the individual cells, the adhesive layer (50) being Matson et al.'s removable adhesive, because Schmid et al. teaches that this approach provides a simplified PEM stack design and reduced part count, and associated manufacturing and cost benefits, also the sealing is generally more reliable with this approach and the desire for easier stack disassembly to remove and repair individual cells (figures, 2, 3a-3d, 4a-4c, and 5b; column 3, lines 1-24 and 53-61; column 5, lines 1-64; column 6, lines 22-58), and because Matson et al. discloses that the removable epoxy adhesive facilitates in fuel cell stack dismantlement, repair and upgrading (paragraph 91).

Tajima teaches a disassembling method for two layers, a support member (3) and a display unit (1), with a disassembling method including a step of separating the two layers by inserting a substance (Applicant's external force application means), such as a cutting blade, in a heated state heated by heat control circuit (Applicant's external heating means), so as to soften or melt the adhesive layer and thereby facilitate separation of the layers from each other; the separating step also includes inserting a substance (Applicant's external force application means), such as a cutting blade, between the two layers with a step of applying force with the substance, such as a cutting blade, in a direction of separating the two layers (Applicant's mutually parting) (paragraphs 27-28, 32, and 39); and the step of separating the two layers by heating an adhesive layer (2) so as to soften or melt the adhesive layer and thereby facilitate separation of the two layers, the heating means is a heat control circuit, which has

wiring for guiding the heating current through the cutting arm (14) (Applicant's external heating means) which heats the cutting unit (12) (Applicant's external force application means), because this method safely separates two layers without breakage, and it is furthermore rendered possible to recycle the thus separated layers (figure 1; paragraphs 27-40, 51-52, 88-89, 94 and 98). It would have been obvious to one of ordinary skill at the time the invention was made to utilize a heat control circuit (Applicant's external heating means) which has wiring for guiding the heating current through the cutting arm (14) (Applicant's external heating means) to heat a cutting blade (Applicant's external force application means) of a cutting unit (12) to heat the adhesive so as to soften and melt the adhesive and thereby facilitate separation of the separators and to apply a force in a direction of separating the separators (Applicant's direction of mutually parting) with the substance, such as the cutting blade (Applicant's external force application means) of the cutting unit (12), because Tajima teaches that this method safely separates two layers without breakage, and it is furthermore rendered possible to recycle the thus separated layers (figure 1; paragraphs 27-40, 51-52, 88-89, 94 and 98).

Regarding claims 2-4, Maston et al. in view of Schmid et al. and Tajima teaches the heat control circuit which has wiring for guiding the heating current through the cutting arm (14) (Applicant's external heating means) (Maston et al. figures 1-8; paragraphs 70, 90, 91 and 99) (Schmid et al. figures, 2, 3a-3d, 4a-4c, and 5b; column 3, lines 1-24 and 53-61; column 5, lines 1-64; column 6, lines 22-58) (Tajima figure 1;

paragraphs 27-40, 51-52, 88-89, 94 and 98), but is silent as to the location of the cutting arm (14) (Applicant's external heating means).

Tajima teaches the cutting arm (14) (Applicant's external heating means) being located close to the two layers, covering over the side gap of the two layers in the position the arm is in, and being along the side of the adhesive layer, because this position allows it to heat, move, and support the cutting blade of the cutting unit (12) (Applicant's external force application means), and also because this method safely separates two layers without breakage, and it is furthermore rendered possible to recycle the thus separated layers (figure 1; paragraphs 27-40, 51-52, 88-89, 94 and 98). It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the cutting arm (14) (Applicant's external heating means), which guides and supplies the heating current, being located close to the two layers, covering over the side gap of the two layers in the position the arm is in, and being along the side of the adhesive layer, because Tajima teaches that this position allows it to heat, move, and support the cutting blade of the cutting unit (12) (Applicant's external force application means), and that this method safely separates two layers without breakage, and it is furthermore rendered possible to recycle the thus separated layers (figure 1; paragraphs 27-40, 51-52, 88-89, 94 and 98).

Regarding claim 5, Maston et al. discloses heating the adhesive layer at 90 to 130 °C, above the curing temperature between room temperature and 60 °C, so as to melt the adhesive layer and thereby facilitate fuel cell stack dismantlement, repair and

upgrading (figures 1-8; paragraphs 70, 90, 91 and 99), but is silent as to this heat being lower than an upper temperature limit of the electrode assembly.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the heat being lower than the upper temperature limit of the electrode assembly, because Maston et al. discloses the desire to repair and upgrade the fuel cells (paragraph 91), thus the heat should not be above upper temperature limit of the electrode assembly in order to keep the electrode assembly in tact for repair and upgrading.

Regarding claim 6, Maston et al. in view of Schmid et al. and Tajima teaches the separation facilitating step causes the cutting arm (14) (Applicant's external heating means), which guides and supplies the heating current, applying heat to the adhesive layer by heating the cutting blade of the cutting unit (12) (Applicant's external force application means), while the external force is applied by the cutting blade of the cutting unit (12) (Applicant's external force application means) in a direction of separating the two layers (Applicant's mutually parting) (Maston et al. figures 1-8; paragraphs 70, 90, 91 and 99) (Schmid et al. figures, 2, 3a-3d, 4a-4c, and 5b; column 3, lines 1-24 and 53-61; column 5, lines 1-64; column 6, lines 22-58) (Tajima figure 1; paragraphs 27-40, 51-52, 88-89, 94 and 98).

Regarding claim 9, Maston et al. in view of Schmid et al. teaches separator plates with the edges of the separator plates extending past the catalytic area of the MEA (Applicant's extension of the separators) (Schmid et al. figures 3a-3d), and Maston et al. in view of Tajima teaches the cutting arm (14) (Applicant's external heating

means), which guides and supplies the heating current, applying heat to the adhesive layer, while the external force is applied by the cutting blade of the cutting unit (12) (Applicant's external force application means) in a direction of separating the two layers (Applicant's mutually parting) (Tajima figure 1; paragraphs 27-40, 51-52, 88-89, 94 and 98). The insertion of the cutting unit (12) (Applicant's external force application means) is along the edges of the separator plate where the adhesive is and where the edges of the separator plates extending past the catalytic area of the MEA (Applicant's extension of the separators), thus the force is applied to an extension of the separators.

Regarding claim 10, Maston et al. in view of Schmid et al. and Tajima teaches the separation facilitating step causes the cutting arm (14) (Applicant's external heating means), which guides and supplies the heating current, applying heat to the adhesive layer by heating the cutting blade of the cutting unit (12) (Applicant's external force application means), while the external force is applied by the cutting blade of the cutting unit (12) (Applicant's external force application means) in a direction of separating the two layers (Applicant's mutually parting) (Maston et al. figures 1-8; paragraphs 70, 90, 91 and 99) (Schmid et al. figures, 2, 3a-3d, 4a-4c, and 5b; column 3, lines 1-24 and 53-61; column 5, lines 1-64; column 6, lines 22-58) (Tajima figure 1; paragraphs 27-40, 51-52, 88-89, 94 and 98).

Regarding claim 11, Maston et al. in view of Schmid et al. teaches the adhesive layer (50) is arranged around the around the perimeter of the separator plates circumscribing the electrochemically active area (40) of the MEA (5) and has a sealing function provides a gas and liquid-tight seal, and that seals are used to prevent leakage

of fluid streams in the operating stack, the adhesive layer (50) around the fluid inlet manifold openings seal to prevent leakage of a gas fed to the MEA (5) (Schmid et al. figures, 2, 3a-3d, 4a-4c, and 5b; column 2, lines 7-15; column 3, lines 53-61; column 6, lines 22-58).

Regarding claim 12, Maston et al. discloses a separation facilitation step of heating a removable epoxy adhesive layer at 90 to 130 ºC, so as to melt the adhesive layer and thereby facilitating fuel cell stack dismantlement, repair and upgrading (paragraph 91). Maston et al. in view of Schmid et al. teaches a PEM fuel cell stack wherein a plurality of fuel cells are layered, and the adhesive layer (50) forming a sealing bond between the adjacent separator plates (11 and 12) at the interface between the individual cells (Schmid et al. figures, 2, 3a-3d, 4a-4c, and 5b; column 5, lines 35-40; column 8, lines 21-67), but is silent as to the step of separating the adjacent separator plates (11 and 12) at the interface between the individual cells by applying heat to soften or melt the inter-cell adhesive layer.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize a removable epoxy adhesive layer as the adhesive layer (50) which forms a sealing bond between the adjacent separator plates (11 and 12) at the interface between the individual cells and to heat that removable epoxy adhesive layer to melt it and thereby facilitate separation of the adjoining fuel cells, because Matson et al. discloses that this adhesive and melting method facilitates fuel cell stack dismantlement, repair and upgrading (paragraph 91).

Regarding claim 13, Maston et al. discloses a fuel cell stack disassembly method of disassembling a fuel cell stack, the fuel cell stack disassembly method comprising: a separation facilitation step of heating the adhesive layer at 90 to 130 °C, so as to melt the adhesive layer and thereby facilitate separation of the fuel cell components (figures 1-8; paragraphs 70, 90, 91 and 99), but is silent as to the inter-cell adhesive layer, to the rise in temperature coming from an external heating means, and to the external force application means.

Schmid et al. teaches a PEM fuel cell stack where a pair of separator plates (11 and 12) are arranged across a MEA (5) being bonded to each other via an adhesive, around the perimeter of the separator plates circumscribing the electrochemically active area (40) of the MEA (5), the adhesive (50) forming a seal around each manifold opening for the fluid inlet and outlets, the adhesive (50) forming a sealing bond between the adjacent separator plates (11 and 12) at the interface between the individual cells, and the desire for easier stack disassembly to remove and repair individual cells, because this approach provides a simplified PEM stack design and reduced part count, and associated manufacturing and cost benefits, also the sealing is generally more reliable with this approach (figures, 2, 3a-3d, 4a-4c, and 5b; column 3, lines 1-24 and 53-61; column 5, lines 1-64; column 6, lines 22-58). It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the PEM fuel cell stack with adhesive (50) forming a sealing bond between the adjacent separator plates (11 and 12) at the interface between the individual cells, to utilize a removable epoxy adhesive layer as the adhesive layer (50) which forms a sealing bond between the

adjacent separator plates (11 and 12) at the interface between the individual cells and to heat that removable epoxy adhesive layer to melt it and thereby facilitate separation of the adjoining fuel cells, because Schmid et al. teaches that this approach provides a simplified PEM stack design and reduced part count, and associated manufacturing and cost benefits, also the sealing is generally more reliable with this approach and the desire for easier stack disassembly to remove and repair individual cells (figures, 2, 3a-3d, 4a-4c, and 5b; column 3, lines 1-24 and 53-61; column 5, lines 1-64; column 6, lines 22-58), and because Matson et al. discloses that the removable epoxy adhesive facilitates in fuel cell stack dismantlement, repair and upgrading (paragraph 91).

Tajima teaches a disassembling method for two layers, a support member (3) and a display unit (1), with a disassembling method including a step of separating the two layers by inserting a substance (Applicant's external force application means), such as a cutting blade, in a heated state heated by heat control circuit (Applicant's external heating means), so as to soften or melt the adhesive layer and thereby facilitate separation of the layers from each other; the separating step also includes inserting a substance (Applicant's external force application means), such as a cutting blade, between the two layers with a step of applying force with the substance, such as a cutting blade, in a direction of separating the two layers (Applicant's mutually parting) (paragraphs 27-28, 32, and 39); and the step of separating the two layers by heating an adhesive layer (2) so as to soften or melt the adhesive layer and thereby facilitate separation of the two layers, the heating means is a heat control circuit, which has wiring for guiding the heating current through the cutting arm (14) (Applicant's external

heating means) which heats the cutting unit (12) (Applicant's external force application means), because this method safely separates two layers without breakage, and it is furthermore rendered possible to recycle the thus separated layers (figure 1; paragraphs 27-40, 51-52, 88-89, 94 and 98). It would have been obvious to one of ordinary skill at the time the invention was made to utilize a heat control circuit (Applicant's external heating means) which has wiring for guiding the heating current through the cutting arm (14) (Applicant's external heating means) to heat a cutting blade (Applicant's external force application means) of a cutting unit (12) to heat the adhesive so as to soften and melt the adhesive and thereby facilitate separation of the separators and to apply a force in a direction of separating the separators (Applicant's direction of mutually parting) with the substance, such as the cutting blade (Applicant's external force application means) of the cutting unit (12), because Tajima teaches that this method safely separates two layers without breakage, and it is furthermore rendered possible to recycle the thus separated layers (figure 1; paragraphs 27-40, 51-52, 88-89, 94 and 98).

***Double Patenting***

10. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir.

1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

11. Claims 1-2, 6, and 11 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-87 of copending Application No. 10/577,987. Although the conflicting claims are not identical, they are not patentably distinct from each other because:

Regarding claim 1, claims 1-87 of copending Application No. 10/577,987 disclose a disassembly method of disassembling a fuel cell where a pair of separators are arranged across the electrode assembly with a sealing member along the periphery in a gap between the pair of separators (claim 1), said fuel cell disassembly method comprising: a separation facilitation step of heating the sealing member to soften or melt the sealing member (claim 57), with the rollers with a heater function apply heat and pressure to the separators with the pressure being applied to give warpage of the separators in directions away from each other (claims 55 and 59), and thereby facilitate separation of the pair of separators from each other, but is silent as to the sealing member being adhesive. It would have been obvious to one of ordinary skill in the art at the time the invention was made that the sealing member is adhesive, because claims 1-87 of copending Application No. 10/577,987 disclose the sealing member needing to

be melted in order to facilitate disassembly, thus adhere the plates together (claim 57-59).

Regarding claim 2, claims 1-87 of copending Application No. 10/577,987 disclose the rollers with a heater function apply heat and pressure to the separators (Applicant's in contact with) along a line of the sealing member (claim 59).

Regarding claim 6, claims 1-87 of copending Application No. 10/577,987 disclose the rollers with a heater function apply heat and pressure to the separators with the pressure being applied to give warpage of the separators in directions away from each other (claims 55 and 59).

Regarding claim 11, claims 1-87 of copending Application No. 10/577,987 disclose a sealing member formed along the periphery of the electrode assembly in the gap between the pair of separators (claim 36), but is silent as to the prevention of leakage of gas fed to the electrode assembly. It would have been obvious to one of ordinary skill in the art at the time the invention was made that the sealing member would prevent the leakage of gas fed to the electrode assembly, because the sealing member seals along the periphery of the electrode assembly in the gap between the pair of separators (claim 36).

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

***Allowable Subject Matter***

12. Claims 7-8 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 7-8 would be allowable because the prior art, Maston et al. (US 2003/0186107), Schmid et al. (US 6,080,503), Face, Jr. et al. (US 6,030,480), and Tajima (US 2003/0121601), do not disclose or suggest the limitation of claim 7, which claim 8 depends upon, "wherein the external force application means in said separation facilitating step comprises a wedge-like member pressed in a direction of insertion into a gap between the pair of separators."

Maston et al. a fuel cell stack disassembly method comprising a separation facilitation step of heating the adhesive layer at 90 to 130 ºC, so as to melt the adhesive layer and thereby facilitate separation of the fuel cell components (figures 1-8; paragraphs 70, 90, 91 and 99), but does not disclose or suggest a wedge-like member which is heated by the external heating means.

Schmid et al. teaches a fuel cell stack where a pair of separator plates (11 and 12) bonded to each other via an adhesive and the desire for easier stack disassembly to remove and repair individual cells (figures, 2, 3a-3d, 4a-4c, and 5b; column 3, lines 1-24 and 53-61; column 5, lines 1-64; column 6, lines 22-58), but does not disclose or suggest a wedge-like member which is heated by the external heating means.

Face, Jr. et al. teaches a stacked assembly with thermoplastic adhesive layers (16, 20 and 24) between two press members (10 and 12) which are shaped to

accommodate the stack and heating the layers with second press member (10) that is heated by resistance heating element (38) to a controlled temperature that melts the adhesive but does not exceed the Curie temperature of other layers in the stack (figures 3a-8; column 4, lines 31-67; column 5, lines 1-33; column 6, lines 1-30; column 7, lines 36-67; column 8, lines 1-40), but does not disclose or suggest a wedge-like member which is heated by the external heating means.

Tajima teaches the separation facilitating step causes the cutting arm (14) (Applicant's external heating means), which guides and supplies the heating current, applying heat to the adhesive layer by heating the cutting blade of the cutting unit (12) (Applicant's external force application means), while the external force is applied by the cutting blade of the cutting unit (12) (Applicant's external force application means) in a direction of separating the two layers (Applicant's mutually parting) (Tajima figure 1; paragraphs 27-40, 51-52, 88-89, 94 and 98), but does not disclose or suggest the cutting unit (12) (Applicant's external force application means) comprising a wedge-like member which is heated by the external heating means.

***Response to Arguments***

13. Applicant's arguments with respect to claims 1-13 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

***Correspondence/Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Katherine Turner whose telephone number is (571)270-5314. The examiner can normally be reached on Monday through Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dah-Wei Yuan can be reached on (571)272-1295. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/K. T./
Examiner, Art Unit 1795

/Dah-Wei D. Yuan/
Supervisory Patent Examiner, Art Unit 1795